Author Index to Volume 28 (1996)

Adachi, H., 541
Akatsu, Y., 557
Allam, J., 875, 907
Alleston, S., 983
Annovazzi-Lodi, V., 43
Arai, S., 487
Arkadiev, V.A., 309
Arnaud, J., 1589

Babic, D.I., 475
Badziak, J., 683, 1139
Bailey, T.J., 1641
Balmer, J.E., 1081
Bauer, J.G., 51
Baynes, N. de B., 875, 907
Bennion, I., 93
Benson, T.M. 1175
Bergmann, K., 241
Berry, G.M., 1175
Bhat, R., 463
Binsma, H., 443
Binsma, J.J.M., 455
Bloom, D.M., 819
Blyth, W.J., 201
Bowers, J.E., 475
Buchvarov, I., 1187
Burton, R.R., 1677

Cahill, M.J.L., 1067, 1181
Capella, R.M., 445
Cartaleva, S., 395
Catino, D., 709
Chamel, M., 653
Chang, Chia-Nan, 1427
Chang, Chung-Hwa, 1371
Chang, Chung-Yen, 1295
Chang, H., 1287
Chang, H.T., 381
Chang, H.-W., 1321
Chang, Hung-Chun, 1359
Chang, J.Y., 1509
Chang, Jenq-Yang, 1551
Chang, M.W., 1509
Chang, Ming, 1571
Chang, S.T., 1741
Chang, Sie-Poon, 1453
Chang, Ting-Chang, 1295
Chang, Weichi, 1551
Charalambidis, D., 291
Chen, H.Y., 1741
Chen, J.C., 1741
Chen, Junewen, 1453
Chen, Pei-Wen, 1543
Chen, S.Y., 519
Chen, W.T., 1741
Chen, Y.F., 1295
Chen, Yit-Tsong, 1477
Cheng Cheng, 405
Cheng, H.J., 961
Cheng, P.-H., 1335
Cheng, W.H., 1741
Cheng, W.T., 1463
Chi, S., 1407
Chi, Sien, 1351
Chien, L.-C., 1535
Chinone, N., 443
Chiou, Yu-Huei, 1305
Chou, Yuh-Fwu, 1443
Chu, A.K., 1321
Chu, C.C., 1463
Chuang, Z.M., 1343
Chung, J. Kuo, 381
Chung, Yueh Liang, 1563
Chyi, Jen-Inn, 1327
Cleaver, J.R.A., 875, 907
Clemens, P.C., 51
Conn, D., 765
Cuijpers, G.P.J.M., 455
Currie, J.F., 953

Dakova, D.Y., 1765
Daleiden, J., 527
Dancheva, Y., 395
Dangor, A.E., 201
David, G., 919
De Raedt, W., 867
Demeester, P., 583
Dewar, S.V., 1175
Dhez, P., 201
Dimitrov, V.S., 1765
Dinev, S., 1187
Ding, Y.J., 1617
Dingsan Gao, 1781
Djoui, A., 201
Dodeja, H., 1629
Donati, S., 43
Dong, S., 57
Dong-Sun Seo, 1067
Doran, N.J., 93
Dörschel, K., 315
Dreischuh, A., 1187
Du, Guotong, 1685
Dwivedi, L., 201
Dykaar, D.R., 731
Edwin Yue Bun Pun, 137
Eichler, H.J., 261
Eichmann, H., 267
Eisele, K., 527
Engel, A., 241
Erasme, D., 669, 983
Eugenieva, E., 1187

Faenov, A.Y., 229
Fan, P.Z., 209
Fan, Ping-Lin, 1417
Farokhrooz, F.N., 719, 1669
Faucher, O., 291
Feller, K.-H., 1203
Feng, X.P., 209
Fernier, B., 445
Feuerhake, M., 267
Fidorra, F., 565
Fiedler, F., 527
Fotakis, C., 291
Frankel, M.Y., 783
Fuh, A. Y.-G., 1535
Fujihara, K., 503
Furthner, J., 1773

Gaizauskas, E., 1203
Ganeev, R.A., 1747
Ganikhanov, F.S., 1747
Gao Dingsan, 647
Gateva, S., 395
Gavrielides, A., 695, 1089
Gerginov, V., 395
Gill, T.L., 1007
Gorny, H.-E., 309
Grant, R.S., 1161
Gruev, D.I., 309
Guotong, Du, 1781
Gupta, B.D., 1629
Gupta, R., 983
Gurney, P.C.R., 1067

Haase, A., 261
Hadjichristov, G.B., 1055
Hagan, D.J., 1691
Haiming Wang, 371
Hama, S., 843
Hamacher, M., 565
Han, S.S., 209
Hanatani, S., 575
Hao Feng, 1199
Healy, S.B., 219
Hebling. J., 1759

Heidrich, H., 565
Heise, G., 51
Henderson, D., 933
Herbert Li, E., 1199
Hewlett, S.J., 71, 1641
Ho, F., 819
Holden, M., 201
Holden, P.B., 201
Hong, H.M., 1287
Horita, M., 605
Horng, J.S., 1741
Hou, A.S., 819
Hu, E.L., 475
Hu, L.Z., 519
Huang, C.Y., 1509
Huang, C.-Y., 1535
Huang, Ding-Wei, 1217
Huang, Tzer-Hsiang, 1495
Huang, Yimin, 1305
Huhmann, A., 283
Hwang, C.J., 1259
Hwang, J.R., 961

Ibrahim, M.M., 1049
Iga, K., 613
Ignaciuk, M., 169
Ikeda, M., 17
Ikezouhene, M., 1029
Inaba, H., 1
Ishino, M., 503

Jablonski, S., 683
Jackson, M.K., 867, 953
Jaegle, P., 201
Jäger, D., 919
Jaing, Cheng-chung, 1583
Jang, D.H., 547
Jiang, Xiuying, 1685
Jin Enshun, 647
Joblin, A., 353
Junfeng, Song, 1781

Kaiser, R., 565
Kalachnikov, M.P., 229
Kam T. Chan, 1199
Kamath, K.K. 1669
Kamijoh, T., 443, 533
Kamiya, T., 975
Kamiyama, S., 541
Karnaukhov, A.A., 309
Kashima, Y., 495
Kato, K., 557, 991
Katoh, Y., 533
Keil, U.D., 731
Keller, R., 527
Kendall, P.C., 1175, 1677
Key, M.H., 201
Khurgin, J.B., 1617
Kidoguchi, I., 541
Kiessling, A., 25
Kikuchi, A., 547
Kimura, S., 503
Kircheva, P.P., 1055
Kishino, K., 541
Kitamura, M., 513
Kitano, H., 575
Kito, M., 503
Klein, M., 51
Ko, T.-C., 1535
Kolomiitsev, A.I., 309
Konefal, Z., 169
Kowarschik, R., 25
Koyama, F., 613
Kugler, N., 57
Kuindersma, P.I., 455
Kumakhov, M.A., 309
Kunii, T., 533
Kuo, Tser-Ting, 1417
Kurihashi, S., 487
Kurita, Y., 613
Kuroda, H., 187
Kusumoto, S., 495
Kutzner, J., 283

Lai, W.T., 1321
Lai, Y, 1335
Langhoff, N., 309
Lay, Choong-Wen, 1217
Lebert, R., 241
Lecours, A., 953
Lee, Chau-Hwang, 1443
Lee, Cheng-chung, 1583
Lee, Chien Ping, 1229
Lee, Ching-Ting, 1417
Lee, Jiunn-Chyi, 1417
Lee, Seung-Joon, 1617
Lee, Si-chen, 1277
Lee, T.-D., 1335
Lee, T.P., 463
Lee, Tsuen-Lin, 1269
Lewis, C.L.S., 201
Li Hongyan, 647
Li, R.X., 209
Li, Y.D., 519
Liao, H.H., 1343
Liao, R.H., 1287
Liaw, J.W., 1407
Liaw, Jy-Wang, 1259
Liaw, S.K., 1407
Lien, Chenhsin, 1305
Lin, H.H., 1741
Lin, Hao-Hsiung, 1269
Lin, Ming-Shan, 1217
Lin, S.H., 1477
Lin, Ting-Huei, 1359
Lin, W., 1335
Lin, W., 1343
Lin, Wei, 1259, 1327
Ling, H.H., 1287
Liu, Baoquan, 1685
Liu, Biing-Der, 1277
Liu, J.S., 1287
Liu, Jin-Shung, 1269
Liu, S.Y., 519
Liu, Ying, 1685
Loh, T., 613
Lorenz, M., 423
Love, J.D., 71, 353, 1641
Lowery, A.J., 1067
Lu, P.X., 209
Lü, Q., 57
Lüthy, W., 1081

Ma Jing, 647
Macnamara, S., 423
Maeda, K., 17
Mahlein, H.F., 51
Mahmood, M.F., 1007
Mann, M., 25
Margalit, N.M., 475
Marinov, V., 1187
Markovsky, P., 147
Martín de los Santos, J.R., 1021
Martínez-Herrero, R., 1021, 1039
Matoba, A., 495
Matsuda, M., 599
Matsui, Y., 503, 533
Matsushima, Y., 591, 605
Matz, R., 51
Mayer, H.P., 445
McPhee, A.G., 201
Mei, Yu-Jane, 1295
Mejías, P.M., 1021, 1039
Meltz, G., 1641
Menzel, R., 261
Merlo, S., 43
Mertin, W., 801
Metzger, W., 51
Meziane, B., 1029
Michailov, N.I., 653
Michel, H., 51
Michinel, H., 1013
Mirin, R.P., 475
Mishima, T., 875, 907
Miyamoto, T., 613
Modena, A., 201
Moerman, I., 583
Momma, C., 267
Morey, W.W., 1641
Morito, K., 599
Mossavi, K., 267
Müller, G., 315
Müller, N., 57
Müllerr, P.O., 983
Munakata, T., 495
Murakami, K., 17

Nagatsuma, T., 729, 897, 991
Nahm, S., 547
Nakai, M., 201
Nakwaski, W., 335
Nechay, B.A., 819
Neely, D., 201
Nees, J., 843
Neff, W., 241
Nenchev, M., 155
Nguyen, L.V.T., 1067
Nickles, P.V., 229
Ning Hua Zhu, 137
Noack, F., 1105
Nomura, I., 547
Norreys, P.A., 201
Novak, D., 1067

Offenberger, A.A., 201
Ogawa, K., 875, 907
Ohbu, I., 875, 907
Orimo, S., 187
Osvey, K., 83
Otsuji, T., 991
Otsuka, N., 503
Ozaki, T., 187

Pakhomov, A., 1477
Pan, Ci-Ling, 1239
Pan, J.-S., 1335
Paul, H., 1111
Peeters, R., 455
Pendock G.J., 1181
Penzkofer, A., 423, 1773
Perrone, M.R., 709
Pert, G.J., 201, 219
Peters, M.G., 475
Peterson, P., 695, 1089
Petrov, V., 1105
Piquero, G., 1039
Ploues, J.A., 201
Plowes, J.A., 219
Po Sheun Chung, 137
Pong, B.J., 1463
Pouliot, L., 953
Preston, S.G., 201

Qi Liyun, 647

Raina, J.P., 719
Ralston, J.D., 527
Ramsden, S.A., 201
Redkorechev, V.I., 1747
Reed, M., 1175
Ringhofer, K.H., 25
Robson, P.N., 1677
Roddie, A.G., 933
Rose, S.J., 201
Ross, I.N., 83
Rothweiler, D., 241
Rudd, J.V., 961
Russ, B., 201

Sahara, R.T., 599
Sakata, H., 591, 1129
Sampson, D.D., 1067
Sampson, D.D., 1181
Sandner, W., 185
Sasaki, T., 513
Sato, S., 1
Schlegel, T., 229
Schnuerer, M., 229
Serizawa, N., 487
Serna, J., 1039
Sewell, P., 1175
Shah, S.A., 953
Shamonina, E., 25
Shandintsev, D.V., 309
Sharma, M.P., 695, 1089
Sheeba, V.S., 1669
Shen, B.F., 209
Shi Jiawei, 647
Shimizu, N., 897
Shin, K.-C., 487
Shinagawa, M., 897
Shishikura, M., 575
Shiue, Sham-Tsong, 1379
Siegert, E., 423
Simes, R., 445
Smith, A.J.A., 933
Smith, C.G., 201
Soda, H., 599
Soto, H., 669
Stamova, M.D., 1055
Steblina, V.V., 71
Stegeman, G.I., 1691
Steinkellner, O., 1773
Stephan, G.M., 1029
Stern, M.S., 1677
Stoykova, E., 155
Streubel, K., 475
Su, Ti-Ing, 1395
Su, Y.S., 381
Sugden, K., 93
Sun, C.C., 1509
Sun, Ching-Cherng, 1551
Sun, H.B., 519
Sun, M.J., 1741
Sun, T.P., 1287
Sun, Tai-Ping, 1277
Sun, Zhongzhe, 1685
Sureau, A., 201

Tafti, H.A., 1669
Tai, K., 1335
Tai, Wen-Chih, 1571
Takahashi, Y., 605
Takano, H., 495
Takeshita, H., 975
Tallents, G.J., 201
Tamanuki, T., 513
Tamura, M., 487
Tamura, S., 487
Tanaka, H., 605
Tanaka, S., 575
Tarn, Chen-Wen, 1427
Tempel, R., 919
Thijs, P.J.A., 455
Toft, D.T., 219
Tomar, A.K., 1629
Torner, L., 1691
Trommer, D., 565
Tsai, Din Ping, 1563
Tsai, M.-S., 1535
Tsai, Wen-Chung, 1295
Tsou, R.H., 1509
Tsou, Ren-Han, 1551
Tsuchiya, M., 975
Tu, Y.K., 1343
Tu, Yuan-Kuang, 1259, 1327

Ulm, G., 299
Usmanov, T., 1747
Utaka, K., 591
Uzunov, I.M., 1765

Valkunas, L., 1203
Van Daele, P., 583
Van Der Hofstad, G.L.A., 455
Van Dongen, T., 455
Van Gestel, P., 455
Van Hove, M., 867
Vance, R.W.C., 353
Vanderbauwhede, W., 583
Vaya, P.R., 1669
Vhang, Ming-Wen, 1551
Vickers, A.J., 983
Vollrath, G., 527

Wada, O., 443
Waho, T., 897
Wakana, S.-I., 843
Walpole, J.N., 623
Walsh, F., 201
Wälti, R., 1081
Wan, Senfar, 1351
Wang, A.C.L., 1407
Wang, C.H., 1287
Wang, C.Y., 1343
Wang, Chi-Luen, 1239
Wang, H., 1655
Wang, Jyhpyng, 1443
Wang, Likarn, 1395
Wang, Peir-Jyh, 1453
Wang, W.H., 1741
Wang, Way-Seen, 1371
Wang, X.F., 209
Wang, Zhiling, 1685

Wark, J.S., 201
Weber, H., 57
Weber, H.P., 1081
Wedell, R., 309
Wei Qiu, 137
Wei Sun, 405
Wei, Tai-Huei, 1495
Wellegehausen, B., 267
Welling, H., 267
Wende, B., 299
Whitaker, J.F., 961
Williams J.A.R., 93
Wittmann, M., 423
Wittrock, U., 57
Wolff, I., 919
Wong, W.S., 953
Wu, C.W., 1287
Wu, Chung-Jen, 1477
Wu, H.X., 765
Wu, Q., 945
Xiaobo Zhang, 1781
Xiuying Jiang, 1781
Xu, Z.Z., 209
Xuemei Li, 1781
Yaita, M., 897
Yamamoto, M., 897
Yang, C,C., 1215, 1217
Yang, Yueh, Ou, 1543
Yau, Hon-Fai, 1453, 1543
Yeh, Wen-Kuan, 1295
Yen, Shun Tung, 1229
Yih, T.S., 1463
Ying Liu, 1781
Yoneyama, M., 991
Yoshida, J., 541
You, Y.L., 201
Yuang, Rong-Heng, 1327
Zacharias, H., 283
Zachary, W.W., 1007
Zah, C.E., 463
Zeng, A., 867
Zeng, A., 953
Zhang, J. 201
Zhang, L., 93
Zhang, L.Q., 209
Zhang, M., 765
Zhang, Q., 209
Zhang, X.-C., 945
Zhang, Y.X., 519
Zhang, Ziaobo, 1685
Zhao, Yongsheng, 1685
Zhiling Wang, 1781
Zing, Jin, 1685

Subject Index to Volume 28 (1996)

absorption, optical non-linearities of, 1161
access network. the, 43
acousto-optic interaction, 1427
adatom diffusion, 547
adiabatic forked splitter, 353
AlGaAs, 1685
AlGaInAs/InP, 463
AlGaInP visible laser diodes, 541
AlInGaAs–InP, 1259
all-optical switching, 1161, 1217
aluminium oxide, 1583
ammonium bifluoride, 1563
amplified emission, collision-induced, 169
amplifier longitudinal nonuniformity, 669
amplifiers
  multipass KrF, 683
  optical parametric, 1105
  semiconductor quantum well, 1217
  semiconductor, 623
  semiconductor optical, 669
amplitude reflectivity spectrum, 1321
analogue-to-digital-conversion technologies, 1521
angle resolved x-ray photoelectron spectroscopy, 527
angular dispersion, 1759
anisotropic dielectrics, 371
antennas, photoconductive dipole, 945
antireflection coatings, 1685
antiresonances, 1321
ArF, 267
argon, 283
asymmetric Y-splitters, 353
atom optics, 1111
atomic force microscopy, 1563
autoionizing state, 291

bacteriorhodopsin, 147
$BaTiO_3$, 1509
beam divergence, 1229
beam modelling, 219
beam profile deformation, 1427
beam quality, 1021
binary circular harmonic (CGH) filter, 1543
biological cells, 1
  fusion, all-optical, 1
birefringence, compensation of, 57
Bragg gratings, 93
  photo-induced, 1641
Bragg layers, embedded 1677
branching angles, 1417
Brillouin scattering
  stimulated (SBS), 261
  truncated, 683
butterfly-packaged devices, 455

caesium, 169
calcium, atomic, 291
calibration of radiation sources, 299
capillary optics, x-ray, 309
carrier-induced modal intermodulation, 1067
cascading phenomena, 1691
cells, biological, 1
characteristic junction parameter, 647
charge injection devices, InSb, 1287
chemical beam epitaxy, 613
chemical vapour deposition, ultra-high vacuum, 1295
chemically assisted ion beam etching, 527
chip fabrication, 43
chirp characteristics, 975
chirp compensation, 991
chirped multimode optical spectra, 1067
chirped pulse amplification compression, 1747
chirped solitary pulses, 1007
chirping characteristics, 669
chloride vapour-phase epitaxy (VPE), 519
chopped $Ti:Al_2O_3$ laser, 1081
circuit analysis, 1669
circular harmonics expansion method, 1359
cladding structures, unconventional, 1229
coherent photon seeding technique, 653
collision-induced amplified emission, 169
compensation of birefringence, 57
computational kinetics, 405
controlled expansion cooling, 209
cooling, 209
coplanar waveguide, 765, 991
coupled mode theory, 1199
coupled non-linear Schrödinger equations, 1007
couplers, 71
coupling efficiency, 1417
coupling
  grating-assisted, 1129
  radiative, 291
  two-beam, 1509
cross-sectional transmission electron microscopy, 1295
cross-talk absorption, 1129
crystals, photorefractive, 25
CuBr lasers, 405
  with added hydrogen, 405
current spreading, 541
cutback method, 1395

damped resonant tunnelling model, 613
dark currents, 1287
dark decay, 1509
data transmission, 1181
DBR laser array, four wavelength, 533
degenerate four-wave mixing (DFWM), 1055, 1477
depressed-cladding fibre, 1641
detectors, energy dispersive, 299
DFB lasers, 455
dielectrics, anisotropic, 371
difference-frequency generation, 1617
differential absorption pump-probe spectroscopy, 1203
diffraction, 1677
digital optics, free-space, 381
digital transmission, 1343
diodes, superluminescent, 1685
direct detection systems, 719
direct modulation, 1181
dispersion, 83
dispersive media, 83
distinguishability, 1111
distributed Bragg reflector (DBR) waveguides, 533
distributed feedback lasers, 1343
dosimetry, 315

double-coated optical fibres, 1379
double-fused vertical-cavity lasers, fabrication and characteristics of, 475
double-pulse generation, 1773
dual-gate field-effect transistor, 875
dual-gate heterojunction field-effect transistor, 875
dual-wavelength external-cavity laser diode array, 1239
dye lasers, 1443
dynamic holography, 25
dynamic power transfer, 1067
dynamic spectral characteristics, 1067
dynamical response, 1029

electrical pulses, ultrashort, 933
electroabsorption modulation, 45, 599
electron microscopy, cross-sectional transmission, 1295
electronic devices
  high-speed, 919
  ultra high-speed, 991
  ultrafast characterization of, 953
electrooptic high-speed probes, 765
electrooptic modulator, 1395
electrooptic pulse-pattern generation, 991
electrooptic sampling, 801, 875, 897, 933, 945, 953
  femtosecond, 907
electrooptic transfer function, 765
embedded Bragg layers, 1677
emission, stimulated resonant, 169
energy dispersive detectors, 299
erbium germanosilicate continuous wave fibre lasers, 1089
erbium-doped fibre, 1407
EUV sources, intense, 241
evanescent waves, 371
excimer lasers, short-pulse rare-gas halide, 1139
excimer molecules, 1139
excited state absorption, 1089
excitonic transition, 1305
external electrooptic probes, 765
external electrooptic sampling, 783
external-cavity laser diode source, 1239
external-cavity lasers, 1589
extraction efficiency, 695

Fabry-Pérot laser systems, 1067
fast pulse period Q-switching, 683
femtosecond electrooptic sampling, 907
femtosecond four-wave mixing spectroscopy, 1203
femtosecond laser, 933
femtosecond pulses, 83
femtosecond refractive nonlinearities, 1161
femtosecond regime, 731, 1105
femtosecond transform-limited Kerr-lens mode-locked dye lasers, 1443
fibre birefringence, linear, 1395
fibre dispersion, 719
fibre dispersion-induced PM–AM noise, 719
fibre interferometers, 43
fibre optic compression scheme, 975
fibre
  erbium-doped, 1407
  samarium-doped 1407
  single mode, 1417
fibre-in-the-loop (FITL), 1521
fibre-optic evanescent field absorption sensor, 1629
fibre-optic terminal modules, 43
fibres, optical, 1521
finger spacing, 1327
finite difference time domain method, 765
finite difference transmission line method, 765
finite-element method, 137
fixed-frequency and tunable VUV and XUV radiation, 267
flared waveguides, 513
folded-cavity four-mirror linear resonator, 423
four wavelength DBR laser array, 533
Fourier transform correlator, 1543
free space radiation mode analysis, 1175
free-space digital optics, 381
frequency mixing, 83, 267
frequency tuning, 395
frequency-stabilized He–Ne laser, 395

Ga/InAsP/InP, 463
GaAs, 819, 843, 867, 933, 1269
  low-temperature-grown, 875
gain compression, 1589
GaInAs/GaInP strain-compensated superlattice, 613
GaInAsP, 1269
GaInAsP/InP multiple-reflector microcavity laser, 487
GaInP strained quantum wires, 547
GaInP/AlInP compressively strained multi-quantum-wire (CS-MQWR) lasers, 547
gain-switched distributed feedback (DFB) laser diode, 975
gain-switched Fabry-Pérot semiconductor lasers, 1067
gain-switched picosecond pulse generation, 1669
gain-switched semiconductor laser, 1181
gallium arsenide, *see* GaAs
gas source molecular beam epitaxial (GSMBE) growth model, 1269
Gauss Schell-model fields, 1039
Gaussian beams
  parametric characterization of, 1021
  weakly diffracted, 381
geometrical optics, 1629
germanium, 219
graded-index separate confinement heterostructure (GRINSCH) lasers, 1229
grating-assisted coupling, 1129
grating-assisted vertical coupler filter, 583
gratings, Bragg, 93
ground glass, 1551

Hankel space, 1677
hard-aperture loss mode locking, 423
heavy-hole-to-electron excitonic transition, 1305
helium-like ions, 187
He–Ne lasers, 395
Hermite–Gauss mode beams, 1039
heterodyne receiver photonic integrated circuits, 565
heterojunction field-effect transistor, 783
high reflectance aspherical mirrors, 1583
high temperature, 503
highly brilliant VUV, XUV light sources, 185
high-lying excited states, 1495
high-order harmonic generation, 267
high-performance, high-reliability lasers, 445

high-quality laser facets, 527
high-resolution double crystal x-ray diffraction, 1295
high-speed electrical waveforms, 843
high-speed electronic devices, 919
high-temperature operation, 463
hologram volumes, 1551
holographic recording, 147
holography, dynamic, 25
homogeneous solitons, 1013
hybrid fibre coaxial (HFC), 1521
hydrocarbon compounds, 169
hydrogen-like or helium-like ions, 241
hyper-electronic Raman scattering photons, 1463

imaging and waveform measurement, 843
InAlAs/InGaAs superlattice avalanche photodiode, 575
indium phosphide, 443
inelastic scattering, 613
infrared detectors
  InSb, 1277
  output-controllable, 1277
InGaAs, 1327
InGaAs/AlAs, 897
InGaAs/GaAs, 1217
InGaAs/GaAs/InGaP, 1259
InGaAs/InP, 1259
InGaAs/InP/InAsP antisymmetric coupled quantum wells, 1305
InGaAs metal–semiconductor–metal photodetectors, 1327
InGaAs/P/InP, 647
InGaAsP, 1269
  electroabsorption modulator, 605
InGaAsP/InAlGaAs MQW waveguide, 583
InGaAsP/InGaAs, 1335
InGaAsP/InP, 527, 1259
injection locking, 1049
injection seeding, 1747
InP, 867, 1269
  iron-doped semi-insulating, 519
in-plane-gate field-effect transistors, 907
input optical power tolerance, 605
InSb
  charge injection devices, 1287
  infrared detector, 1277
  integrated photo-MOSFET, 1277
  metal–insulator–semiconductor (MIS), 1287
integrated circuits, 729
  monolithic microwave and millimetre wave, 919
  monolithic microwave, 801
integrated multiwavelength laser, 533
integration, monolithic, 43
intense EUV sources, 241
intensity moment formalism, 1021
interactive services, 43
interference, 1111
interference wedge, 155
intermodulation, carrier-induced modal, 1067
iodine, 1477
ion beam etching, chemically assisted, 527
ionization, optical field, 201
ions
  helium-like, 187
  hydrogen-like or helium-like, 241
iron-doped semi-insulating InP, 519
isotropic media, 1427

junction field-effect transistor, 961

Kerr lens effects, 423
Kerr-lens mode locking, 423
Kovar, 1741
KrF amplifier, multipass, 683
KrF, 267
  lasers, 201, 683, 1139
kurtosis parameter, 1021

laser beams, near-IR, 1
laser diode array, dual-wavelength external-cavity, 1239
laser diode source, external-cavity 1239
laser diodes
  AlGaInP visible, 541
  gain-switched distributed feedback (DFB), 975
  pulsed, 513
  quantum-well, 519, 1229, 1335, 1669
laser facets, high-quality, 527
laser linewidth, classical theory of, 1589
laser phase noise, 719
laser plasmas, short-pulse, 229
laser radiation, picosecond, 283
laser systems, 267
  Fabry-Pérot, 1067
  ultrafast high-power UV, 683
laser therapy, 315
lasers
  CuBr, 405
  DFB, 455
  distributed feedback, 1343
  double-fused vertical-cavity, 475
  dye, 1443
  edge-emitting, 335
  erbium germanosilicate continuous wave fibre, 1089
  external-cavity, 1589
  femtosecond transform-limited Kerr-lens mode-locked dye, 1443
  femtosecond, 933
  GaInAsP/InP multiple-reflector microcavity, 487
  GaInP/AlInP compressively strained multi-quantum-wire (CS-MQWR), 547
  gain-switched Fabry-Pérot semiconductor, 1067
  gain-switched semiconductor, 1181
  graded-index separate confinement heterostructure (GRINSCH), 1229
  He–Ne, 395
  high-performance, high-reliability, 445
  integrated multiwavelength, 533
  KrF, 201, 683, 1139
  microdisc, 1335
  microring, 1335
  mode-locked dye, 653
  mode-locked Nd:YLF, 283
  modulated Nd-doped kilometric fibre, 1029
  multimode Fabry-Pérot, 1067
  multiple-quantum-well, 495
  Nd:glass, 1747, 1773
  Nd:YLF, 1105
  Nd-doped fibre, 1029
  production, 445
  pumped soft x-ray, 187
  self-frequency-locked, 1407
  semiconductor, 647, 983, 1229, 1589
    inhomogeneously pumped, 1049
    with ring cavity, 1217
  short-pulse rare-gas halide excimer, 1139
  solid-state, 261
  solid-state rod, 57
  strained multiquantum well, 503

strained quantum well, 463
Ti:sapphire, 423, 1105
Tm:YAG, 695
uncooled, 463
vertical-cavity surface-emitting, 335, 1677, 1781
with tapered gain regions, 623
XeCl, 709, 1139
x-ray, 219
XUV, 201
laser-produced plasmas, 241
laser–tissue interactions, 315
lasing characteristics, 17
lasing, short-wavelength, 209
laterally gated transistors, 907
lifetime determination, 1495
light fluctuations, 1589
light sources
short-wavelength coherent, XUV 209
XUV plasma, 261
$LiNbO_3$, 991, 1371, 1551
linear fibre birefringence, 1395
liquid crystal films, polymer-dispersed, 1535
liquid crystal–polymer dispersion material, 1535
$LiTaO_3$, 945
lithium niobate, *see* $LiNbO_3$
lithography, 309
x-ray, 241
low bias-voltage operation, 575
low birefringent optical fibres, 1007
low electric fields, 599
low threshold current, 1229
low-finesse cavities, 1089
low-temperature GaAs pulse generators, 933
low-temperature-grown GaAs, 843, 875

machine vision technique, 1563
Mach-Zehnder optical modulators, 137
magnesium fluoride/aluminium/BK7-glass (MgF_2/Al/BK7), 371
magnesium plasma, 229
magnesium-oxide induced lithium outdiffusion, 1371
matched-cladding fibre, 1641
matrix optics, 57
medicine, VUV laser applications in, 315
metal particle trapping, 1
metallic films, optical properties of, 371
metal–organic vapour-phase epitaxy (MOVPE), 533
microbending losses, minimization of, 1379
microcavity with quarter-wave dielectric mirrors, 1321
microcavity, finesse of a, 1321
microdisc lasers, 1335
microlaser oscillation, 1
microlens interconnection system, 381
micro-material processing, 261
micromotor, optical, 1
micropinch x-ray source, 309
microring lasers, 1335
microscopic particles, 1
microscopy, 309
atomic force, 1563
cross-sectional transmission electron, 1295
scanning force, 819
scanning probe, 819
x-ray, 241
microwave propagation effects, 919
minimization of microbending losses, 1379
mirrors
high reflectance aspherical, 1583
optical phase conjugate, 1617
phase-conjugating, 261
unequal, 155
modal interference, 1199
mode emission characteristics, 1327
mode locking
hard-aperture loss, 423
soft-aperture gain, 423
mode matching, 1677
mode splitting, 1371
mode-locked dye lasers, 653
mode-locked Nd:YLF laser, 283
mode-locked oscillator, 1747
mode-locking, 1691
passive, 1217
modulated Nd-doped kilometric fibre lasers, 1029
modulation bandwidth, 961
modulation, direct, 1181
modulation-doped field-effect transistors, 867
molecular buffer gas systems, 169
molecular rovibronic quantum states, 1477
molecular systems, 1477
monochromatized synchrotron radiation, 299
monochromator–detector systems, 299
monolithic integration, 43
monolithic microwave and millimetre wave integrated circuits, 919
monolithic microwave integrated circuits, 801
monolithically integrated optoelectronic circuit, 875
monolithically integrated photoreceiver, 557
monolithically integrated test fixtures, 867
monolithically integrated tunable receivers, 565
multidimensional interferometric measurements, 395
multimode Fabry-Pérot lasers, 1067
multimode waveguide p-i-n photodetector, 557
multimoded waveguide, 353
multipass KrF amplifier, 683
multiple quantum well lasers, 495
multiplexing, random phase-coded, 1551
multi-quantum barriers, 613
multi-terminal devices, 875
multi-wavelength EDF ring laser source, 1407
mutagenicity, 315

nanometre-scale device technology, 907
narrow-band seeding, 1105
Nd:glass, 201, 1747, 1773
Nd:YAG, 57
oscillators, 57
Nd:YLF laser, 1105
Nd-doped fibre lasers, 1029
near infrared continuous wave power, 623
negative differential resistances (NDRs), 591
neodymium, 261
neodymium glass, 83
network analysis, small-signal electronic device, 783
nickel indiffusion, 1371
noble gas jets, 267
noise limit, 961
nonlinear coupling of polarized solitons, 1007
nonlinear gradient index media, 1013
nonlinear optical phenomena, 1, 1691
nonlinear optical techniques, 267

nonlinear polarization rotation, 1217
nonlinear Schrödinger equation, 1765
nonlinear self-switching, 1217
nonlinear transmission in fibres, 709
nonlinear wave mixing, 1463
nonplane waves, 25

one-step liquid phase epitaxy, 1685
on-wafer large-signal characterization, 991
optical asymmetry, 155
optical displacement sensors, reflective fibre, 1655
optical fibre communication, 557
optical fibre couplers, 1359
optical fibre structures, 1563
optical fibres, 1521
  double-coated, 1379
  low birefringent, 1007
  photosensitive, 93
optical field ionization, 201
optical filters, vertically grating-coupled, 1129
optical frequency division multiplexing (OFDM) networks, 565
optical holographic images, storing, 1535
optical intensity modulators, 137
optical micromotor, 1
optical modulators, Mach-Zehnder, 137
optical parametric amplifier, 1105
optical phase conjugate mirror, 1617
optical phase conjugation, 1589
optical probing, 729, 983
optical properties of metallic films, 371
optical switching devices, 1305
optical time-domain reflectometers, 495
optical trapping, 1
optical waveguides, 1161
optical-to-electrical (OE) conversion stimulus probe, 991
optimally short devices, 353
optimized photoconductive switches, 875
optoelectronic circuit, monolithically integrated, 875
optoelectronic switching, 591
oscillator, mode-locked, 1747
oscilloscope calibration, 933
oscilloscopes, fast-sampling, 933
output-controllable infrared detector, 1277

parasitic gate-drain capacitance, 907
passive mode-locking, 1217
path information, 1111
pattern recognition, 1543
perturbation theory, 1161
phase discrimination, 1395
phase modulation, time-resolved induced, 1187
phase noise, thermodynamic, 43
phase-conjugating mirrors, 261
phase-noise sources, statistical properties of, 1589
photoablation effect, 315
photoconductive dipole antennas, 945
photoconductive gates, 961
photoconductive gating, 843
photoconductive switch, ultrafast, 933
photoconductivity, picosecond, 843
photodetector, multimode waveguide p-i-n, 557
photodetectors, 1129
  InGaAs metal–semiconductor–metal, 1327
  ultra-wide-band long-wavelength, 557
  wavelength-selective ,1129
photodiode, InAlAs/InGaAs superlattice avalanche, 575
photo-enhanced chemical vapour deposition, 1277
photo-induced Bragg gratings, 1641
photoinduced changes, 147
photoluminescence, 1295
photonic devices, 1259
photonic integrated transceiver, 43
photonics research, 1215
photophysics, 1495
photoreceiver, monolithically integrated, 557
photorefractive $BaTiO_3$, 1509
photorefractive crystals, 25
photorefractive surgery, 315
photoresists, UV-baked, 527
photosensitive optical fibres, 93
picosecond laser radiation, 283
picosecond photoconductivity, 843
picosecond pulse generation, 1773
  gain-switched, 1669
pinch plasma devices, 241
plane wave reflectivity, 1677
plasma light sources, XUV, 261
plasmas
  hot and dense, 229
  laser-produced, 241
  magnesium, 229
  tantalum, 229
PM–AM noise, 719
Pockels cell Q-switch, 1453
point-matching method, 137
polarization changes, 1427
polarization-insensitive heterodyne receiver PICs, 565
polarized solitons, non-linear coupling of, 1007
polymer-dispersed liquid crystal films, 1535
Porro resonator, 1453
post-weld shift, 1741
power division, 1371, 1417
probes
  electrooptic high-speed, 765
  external electrooptic, 765
profilometry, three-dimensional, 1563
proton bombardment, 1781
pulse compression, 1691
pulse front tilt, 1759
pulse generation
  gain-switched picosecond, 1669
  ultrashort, 1669
pulse generators, low-temperature GaAs, 933
pulse propagation, 1351
  ultrashort, 1351
pulse width, 1187
pulsed EUV radiation, 241
pulsed laser diodes, 513
pulse-duration measurement, ultrashort, 1187
pulses
  chirped solitary, 1007
  picosecond, 1773
  short, 1759
  transform-limited, 653
  x-ray, 229
pump depletion equation, 695
pumped soft x-ray lasers, 187
pumping requirements, 1081
pump-probe measurements, 1203
pure synchronous pumping, 653

quantitative spectral radiation measurements, 299
quantum theory, 1589
quantum wells
  InGaAs–InP–InAsP antisymmetric coupled, 1305
  type 1.5 coupled, 599

quantum-well electrorefraction, 583
quantum-well laser diodes, 519, 1224, 1335, 1669

radiation sources, calibration of, 299
radiative coupling, 291
Raman effects, stimulated, 169
Raman scattering, stimulated, 709
random phase-coded multiplexing, 1551
rate equations, 1139
ray optics, 1
ray-tracing code, three-dimensional, 219
ray-tracing technique, 423
receivers, monolithically integrated tunable, 565
recombination pumped soft x-ray lasers, 187
recording, holographic, 147
rectangular dielectric waveguides, 1175
reflective fibre optical displacement sensors, 1655
reflective intensity modulation, 1655
reflectivity, plane wave, 1677
reflectometers, optical time-domain, 495
refraction, optical non-linearities of, 1161
refractive index, statistical fluctuation of, 1589
relaxation processes, 1139
reliability, 647
repeaterless transmission, 455
resonant-tunnelling triangular-barrier optoelectronic switch (R-TOPS), 591
rhodamine 590, 1443
ring laser cavity, 1407
ring laser diodes, 17
RTD switching time, 897
rubidium, 169
rutile/aluminium/BK7-glass (TiO_2/Al/BK7), 371

Sagnac interferometers, 43
samarium-doped fibre, 1407
sampling technique, electrooptic, 801
sampling, external electrooptic, 783
scalar mode propagation constant, 1175
scanning force microscope probes, 843
scanning force microscopy, 819
scattering, inelastic, 613
Schottky contacts, 1327
Schrödinger equations
  coupled non-linear, 1007
  nonlinear, 1765
secondary bistable solitons, 1013
second order nonlinearities, 1691
self-frequency-locked laser, 1407
self-switching, nonlinear, 1217
semiconductor amplifiers, 623
semiconductor lasers, 647, 983, 1229
  inhomogeneously pumped, 1049
  packaging, 1741
  pump-probe source, 983
  quantum well, 1229
  with ring cavity, 1217
short time Fourier transform (STFT) scheme, 975
short-haul applications, 1067
short-pulse laser plasmas, 229
short-pulse optical sources, 731
short-pulse rare-gas halide excimer lasers, 1139
short-pulse VUV and XUV radiation, 267
short pulses, 1759
short-wavelength coherent XUV light sources, 209
short-wavelength lasing, 209
signal processing, 1691
silicon, 819
sillenites, 25
single mode fibre, 1417
single mode power divider, 1417
single-rod neodymium amplifier, 261
sinusoidal electrooptic amplitude/phase modulation, 991
SiO_x, 1685
Si–SiGe, 1295
Si–SiGe superlattices, ordered and disordered, 1295
slab waveguides, 1161
slowly varying envelope approximation (SVEA), 1351
small beam divergence, 1229
small-signal electronic device network analysis, 783
sodium vapour, 169, 1463
soft-aperture gain mode locking, 423
solid-state lasers, 261
solid-state rod lasers, 57
solitons, 1691
  homogeneous, 1013
  interaction, 1765
  non-linear coupling of polarized, 1007
  secondary bistable, 1013
spatial Fourier transform approach, 1427
spectral domain technique, 137
spectroscopy
  differential absorption pump-probe, 1203
  femtosecond four-wave mixing, 1203
split-step parabolic refractive index model, 423
Stark shifts, 1305
state-of-the-art optoelectronic techniques, 783
stimulated Brillouin scattering (SBS), 261
stimulated emission, 169
stimulated Raman effects, 169
stimulated Raman scattering, 709
stimulated resonant emission, 169
strained multiquantum well lasers, 503
strained quantum well lasers, 463
streak camera images, 975
strongly radiative cooling, 209
subpixel estimation, 1563
super-FM, 1521
super-Gaussian apertures, 1039
superluminescent diodes, 1685
surface features, 1655
surface plasmon waves (SPWs), 371
surgery, photorefractive, 315
switches
  all-optical, 1161
  optimized photoconductive, 875
switching behaviour, 669
switching devices, optical, 1305
switching response, 669
switching
  all optical, 1217
  optoelectronic, 591
synchrotron radiation, 241
  monochromatized, 299
synthetic discriminant functions (SDF), 1543

Taiwan, 1215
Taiwan National Information Infrastructure, 1259
Taiwan, telecommunication applications in, 1259
tantalum plasma, 229
telecommunication applications in Taiwan, 1259
temperature dependence, 605

temperature phase fluctuation (TPF), 43
temperature, effects of on VCSEL operation, 335
temporally overlapped waveforms, 953
terahertz fields, 945
testing ultrafast electronic devices, 819
thermal lensing, 695
thermodynamic phase noise, 43
thin-film assemblies, 371
thin-film deposition, 1583
thin-sheet approach, 1021
third-harmonic generation, 291
third-order non-linear susceptibility, 1055
three-dimensional models, 25
three-dimensional profilometry, 1563
three-dimensional ray-tracing code, 219
three-level polar molecule, 1055
three-manifold laser problem, 1089
threshold current, low, 1229
Ti:Al_2O_3, 1081
Ti:$LiNbO_3$, 137, 1417
Ti:$LiNbO_3$ optical intensity modulators, 137
Ti:sapphire, 267, 423, 1105
time-resolved induced phase modulation, 1187
time-resolved waveform analysis, 843
timescales, importance of, 1029
Ti–Mg double diffused method, 1417
Tm:Ho lasers, 1081
Tm:YAG lasers, 695
transfer-matrix method, 1305
transform-limited pulses, 653
transient degenerate four-wave mixing, 1477
transistors
  dual-gate field-effect, 875
  dual-gate heterojunction field-effect, 875
  heterojunction field-effect, 783
  in-plane-gate field-effect, 907
  junction field-effect, 961
  laterally gated, 907
  modulation-doped field-effect, 867
transmission, repeaterless, 455
transverse second-harmonic generation, 1617
trapping, optical, 1
travelling wave devices and circuits, 919
truncated Brillouin scattering, 683
two-beam coupling, 1509
two-dimensional electrooptic field mapping, 801, 919
two-inch technology, 445
two-photon resonance (TPR) condition, 1055
two-photon resonance degenerate four-wave mixing, 1055
two-photon resonance excitation, 1463
two-wave mixing, 25
type 1.5 coupled quantum wells, 599

ultra high-speed electronic devices, 991
ultrafast characterization of electronic devices, 953
ultrafast device network analysis, 783
ultrafast devices, 729
ultrafast electrical phenomena, 731
ultrafast electrical signals, 731
ultrafast electronic devices, testing, 819
ultrafast high-power UV laser system, 683
ultrafast photoconductive switch, 933
ultrafast resonant-tunnelling diodes, 897
ultrafast sampling, 875
ultrahigh vacuum chemical vapour deposition, 1295
ultrashort electrical pulses, 933
ultrashort pulse generation, 1669
ultrashort pulse propagation, 1351
ultrashort pulse-duration measurement, 1187
ultra-wide-band long-wavelength photodetectors, 557
unconventional cladding structures, 1229
uncooled lasers, 463
unequal mirrors, 155
upconversion, 1089
U-shaped sensing probe, 1629
UV-baked photoresists, 527
UV-written in-fibre Bragg gratings, 93
vacuum ultraviolet 178.7 nm emission, 1463

vertical-cavity surface-emitting lasers, 335, 1677, 1781
  effects of temperature on, 335
vertically grating-coupled optical filters, 1129
very broad-band single-mode planar couplers, 71
VUV and soft x-ray region, 299
VUV and XUV radiation
  fixed-frequency and tunable, 267
  short-pulse, 267
VUV laser applications in medicine, 315
VUV radiation, 315
VUV, XUV light sources, 185

wave equation, 1351
wave mixing, non-linear, 1463
wave propagation,801, 919
waveform analysis, time-resolved, 843
waveforms, temporally overlapped, 953
waveguide couplers, 533
waveguide structure, 575
  asymmetric, 1617
  symmetric, 1617
waveguide switches, X-intersecting, 1199
waveguides
  coplanar, 765, 991
  distributed Bragg reflector (DBR), 533
  flared, 513
  multimoded, 353
  optical, 1161
  rectangular dielectric, 1175
  slab, 1161
  Y-branch, 1371
wavelength selectivity, 1129
wavelength tuning, 583
wavelength-division microlens interconnection, 381
wavelength-flattened optical fibre couplers, 1359
wavelength-selective photodetectors, 1129
waves
  evanescent, 371
  surface plasmon (SPWs), 371
weakly diffracted Gaussian beam, 381
weakly guiding approximation, 1161
which way information, 1111
wireless access, 1521

XeCl lasers, 709, 1139
X-intersecting waveguide switches, 1199

x-ray capillary optics, 309
x-ray diffraction, high-resolution double crystal, 1295
x-ray emission, 229
x-ray lasers, 219
x-ray lithography, 241
x-ray microscopy, 241
x-ray photoelectron spectroscopy, angle resolved, 527
x-ray pulses, 229
x-ray pumping, 209
x-ray source, micropinch, 309
XUV harmonic generation, 201
XUV intensity, 283
XUV lasers, 201
XUV light sources, 209
XUV plasma light sources, 261
Y-branch waveguide, 1371
Young-type optical experiments, 1111
Z-scan technique, 1495